VOLUME 3 NUMBER 1 SPRING 2000

WATER LINES

NEWS FROM THE WATER RESOURCES DIVISION
OF THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

DEPARTMENT NEWS

State Water Projects Bureau Completes Broadwater-Missouri Pipe Span Lining

By Tim Kuehn

The Department has completed the first phase of rehabilitating the aging Broadwater-Missouri pipe span near Toston, Mont. The pipe span was originally constructed in 1940 and had suffered extensive corrosion of the interior lining. The 7-foot diameter, 666-foot-long steel pipe transports irrigation water across the Missouri River to members of the Broadwater-Missouri Water User's Association. The project services approximately 24,000 acres of land.

The contract for rehabilitating the pipe span interior was awarded to Interstate Coatings, Inc. (ICI), from Kennewick, Wash., in October 1999. Supervision of the interior lining was conducted by Charlie Atkins, Project Bureau Construction Oversight Specialist. Equipment was mobilized to the job site and work began in November 1999. The coal tar enamel liner was removed, and the pipe interior was sandblasted to remove the corrosion and scale from the steel substrate. The pipe was then coated with a zinc/aluminum metalizing spray and an epoxy sealer that will serve as the new liner and provide cathodic protection to the steel substrate. Phase one of the pipe span rehabilitation was completed in February.

A contract to rehabilitate the pipe-span exterior will be advertised this spring and awarded in July. This work is scheduled to begin this fall and will include replacing the deteriorated wooden catwalk with steel grating, repairing and upgrading the expansion joint, and painting the exterior surface with a reflective aluminum topcoat.

The 1999 Legislature approved a Renewable Resource Loan (House Bill 8) in the amount of $509,426 to provide funding to rehabilitate the structure. The loan is administered by the State Water Projects Bureau and will be repaid by the Water Users Association.

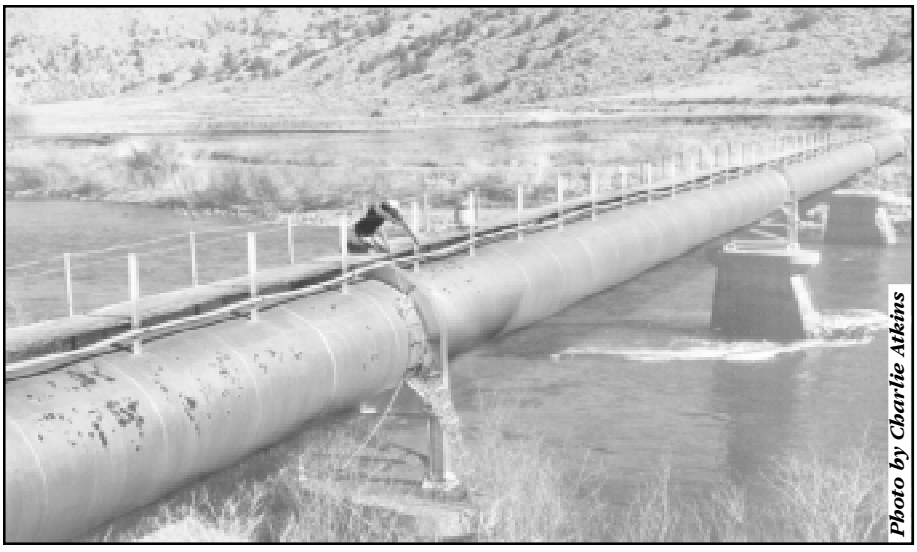


Photo by Charlie Atkins

Broadwater-Missouri Pipe Span.

Supreme Court Addresses the Right to a Clean and Healthful Environment

By Tim Hall

On Oct. 20, 1999, the Montana Supreme Court held the 1972 Montana Constitution guarantees the "constitutional right to a clean and healthy environment and to be free from unreasonable degradation of that environment," 1999 MT 248 (Montana Environmental Information Center; Clark Fork-Pend Oreille Coalition; and Women's Voice for the Earth v. Department of Environmental Quality and Seven-Up Pete Joint Venture - Cause No. 97-455; now commonly referred to as the MEIC case). The court concluded that the right to a clean and healthful environment is a fundamental right, and held that any statute or rule which implicates that right "must be strictly scrutinized and can only survive scrutiny if the State establishes a compelling state interest and that its action is closely tailored to effectuate that interest and is the least onerous path that can be taken to achieve the State's objective."

The Seven-Up Pete Joint Venture was running pump tests at its McDonald Gold Mine Project outside of Lincoln involving the pumping of groundwater and its subsequent release into groundwater infiltration gallery mixing zones near the Blackfoot River and the Landers Fork. The released water contained arsenic, a known carcinogen. Officials at DEQ had issued formal authorization for the proposed discharges according to Mont.Code Ann. § 75-5-317(2)(j), which excludes certain activities from review under the Water Quality Act's nondegradation policy. The Supreme Court remanded the case back to the district court for strict scrutiny of the statutory provision which automatically precludes certain activities from nondegradation review.

It is noteworthy that the court stated its decision applied to state or private action. In regard to water, it is also worth noting that the court stated "our constitution does not require that dead fish float on the surface of our state's rivers and streams before its farsighted environmental protections can be invoked."

The implications of the case are still being studied by the administration, the Environmental Quality Council of the legislature, the DNRC and other state agencies.

Evaluating the Seismic Hazards and Seismic Safety of Dams in the Northern Intermountain U.S.

April 25-26, 2000

Organized by Ivan Wong
URS Greiner Woodward Cycle

Sponsored by:

DNRC Montana Dam Safety Program

With cooperation of:
Wyoming State Engineer's Office
Idaho Department of Water Resources

Location:

Holiday Inn SunSpree Resort
315 Yellowstone Avenue
West Yellowstone, MT 59758

Registration:

The registration fee is $90 per person (includes 2 lunches, and the field trip bus ride). A limited number of student scholarships are available. Please contact the DNRC Dam Safety Program for a registration form, (406) 444-0860. The deadline to apply is April 18, 2000.

General Agenda

- Registration
- Introduction
- Earthquake Basics
- Field Trip to Hebgen Lake
- Social Hour
- Seismic Hazard Analysis
- Seismic Stability Analysis
- Seismic Risk Analysis
- Seismic Hazard Mitigation and Rehabilitation
- Regulatory Perspective

For more information, contact the Dam Safety Program:

Michele Lemieux (406)444-6613, or e-mail mlemieux@state.mt.us
Terry Voeller (406)444-6664, or e-mail tvoeller@state.mt.us

La Niña 1999 - 2000: Was She a No-show, or Just Running a Little Late?

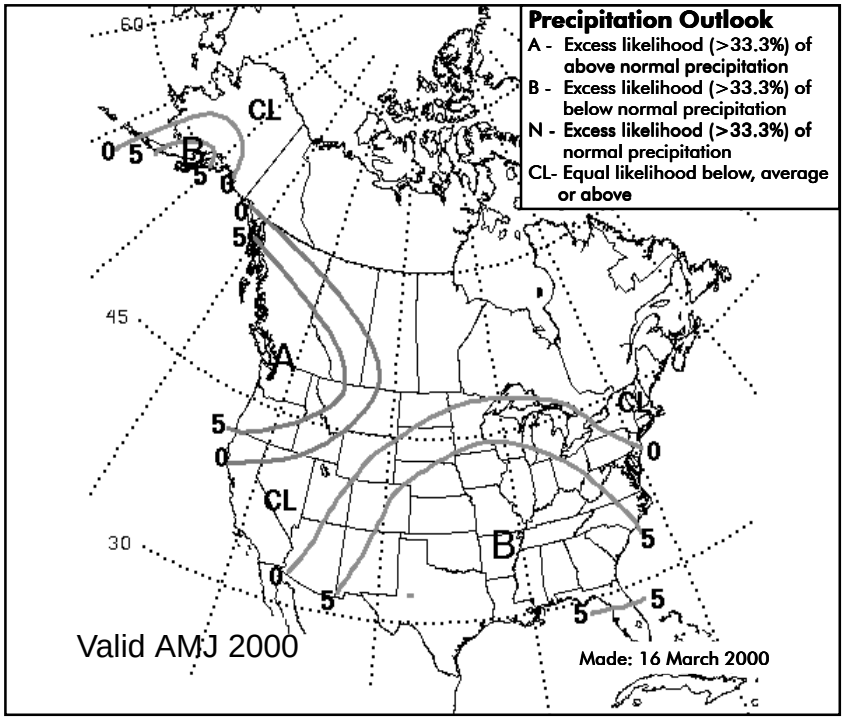
By Jesse Aber

Last Fall, I wrote an article for Waterlines titled, "An Old-Fashioned Montana Winter for 1999-2000." In that piece I traced the emergence of the 1998-99 La Niña event. At that time, I quoted the National Weather Service (NWS) Great Falls Montana Area Office Internet page section on El Niño and La Niña :

Those (La Niña or cold event) conditions translate into a high degree of confidence that Montana will experience a wetter-than-normal and probably a colder-than-normal winter. One important item to remember is La Niña winters are quite variable in Montana. Some have seen above normal temperatures and some have had below normal snowfall. On balance, it averages out to colder than normal and snowier than normal.

As winter gave way to spring with the passing of the vernal equinox on March 20th, it became apparent that Winter 1999-2000 bucked the La Niña pattern over time for the state that placed odds with a colder and wetter winter than average. At the March 23, 2000 Governor's Drought Advisory Committee meeting, Ken Mielke, NWS Montana Area Manager, noted that the La Niña event had not delivered the levels of moisture hoped for in Montana over the course of the winter and that the temperatures were notably warmer than usual. As the year came to a close, it became official: 1999 was the third-warmest year, and December 1999 the warmest December in Montana over the entire 106-years of record-keeping, according to Mielke. This revelation came on the heels of the facts that 1997 had been the 23rd warmest, and 1998 the fifth-warmest years in Montana over the 106-year record.

Was the Montana La Niña forecast for winter precipitation as far off the mark as was the forecast for temperatures for the same period? Roy Kaiser, Water Supply Specialist with the Montana Snow Survey and Climate Services of the Natural Resources Conservation Service, reported that there was a notable lack of low to mid-elevation mountain snowpack this winter, much like last year. However, at the higher elevations, where most of the SNOTEL real-time gauging network exists, and from which most of the summer water supply originates, the water content of the snowpack ranges from average west of the Continental Divide to about 15 percent below average east of the divide. The significance of the absence of low-elevation snowpack is the effect on soil moisture and runoff. If soils are dry, runoff from snowpack to streams will be reduced, as it is intercepted to recharge soils and groundwater.



CPC Precipitation Outlook Map.

If one looks back at the Fall 1999 precipitation forecast for winter in Montana, it is apparent that the anomaly was not forecasted to extend much more to the east than the Continental Divide, which is very close to the current extent of average mountain snowpack in the state. And remember, La Niña winters in Montana only promise high variability in conditions and not necessarily cool and wet winters. The La Niña forecast for Montana winter precipitation may have fallen short of our hopes, but springtime in the Rockies always includes precipitation as snow.

According to the National Weather Service, normal temperatures for early April in Montana are highs in the lower 40s to upper 50s and lows in the upper teens to near 30 degrees, F. But, with a strong La Niña signal still in place with little, if any signs of waning, what climate conditions can we expect in Montana for the Spring and Summer of 2000? Could Montana still see cooler and wetter than average climate conditions? According to the National Climate Prediction Center (CPC) Diagnostic Advisory issued March 16, 2000:

Tropical convection patterns continue to be consistent with a

(La Niña Continued on page 4)

(La Niña continued from page 3)

strong event. Sea surface temperatures in the equatorial Pacific continue to be mainly between 1 and 2 centigrade degrees below normal. La Niña conditions are expected to last through the spring and possibly well into the summer. With the la Niña still going strong now, it seems unlikely that it will disappear completely by June or July.

The Climate Atlas of Montana, (Caprio & Nielsen 1992, p. 15) notes that in April, precipitation increases greatly east of the Continental Divide, both in the plains of the central and eastern regions and the mountains north and south along the Divide, where precipitation of six inches or more can be expected. Indeed, this is the time of year for big jumps in water content in the headwaters of the Missouri and Yellowstone rivers, including Yellowstone Park. One significant storm in Spring of 1999 turned the water supply picture for southcentral Montana and northern Wyoming from below to above average in about 48 hours, filling reservoirs nearly overnight. The Climate Atlas of Montana, (Caprio & Nielsen 1992, p. 15) notes that in April:

Precipitation is much less than in March in the mountains west of the Continental Divide due to less up-slope air movement, but precipitation increases greatly east of the Divide. The high mountains of the south and in the north near the Divide receive more than 6 inches of moisture. Most precipitation in the plains occurs as wet snow or rain showers with southern plains receiving more than an inch of precipitation. Locations in the northeast experience a secondary peak of precipitation in late April and early May which is associated with storms that deposit a half inch or more of precipitation. Drought years are notably linked with the failure of these early season storms.

As of the last week of March 2000, the state had received amounts of precipitation in the one-half of an inch range in parts of the south-central, eastern, central, western, northeast, and north-central regions. April 2000 came in like a lion with reports of close to 30 inches of snow in the Little Belt Mountains and fresh powder at other state ski resorts, as well as valley precipitation in varying amounts from one-third to one-half inches. The forecasts are calling for more moisture in coming weeks and there is no reason to expect the trend to end anytime soon. Precipitation for Montana valley locations for March ranges from .5 inch to 1 inch, and for April 1 to 2 inches. The Climate Prediction Center precipitation outlook for April calls for normal statewide precipitation and slightly warmer temperatures east of the Divide. The period of April through June calls for above average precipitation and temperatures extending from the Pacific Northwest into the western one-half of Montana.

So, although winter is officially over, the mountain snowpack accumulation period could easily extend into May. Three of the past four snow seasons in Montana (1996, 1997 and 1998) have seen the peak accumulation of snow water content stretch out into mid-May, well past the 30-year average date of April 15. And, just as we are getting used to the mild temperatures, the daily temperature range may "slip" below average by staying relatively constant, as the historical average increases moving toward summer.

The Governor's Report on the Potential for Drought will be released at the April 18, 2000 meeting of the Governor's Drought Advisory Committee and the member agencies will present their water supply and moisture condition updates. We eagerly await the meeting and the continued arrival of timely doses of moisture as the growing season approaches. And do not write off La Niña too soon - she could just be running a bit behind schedule.

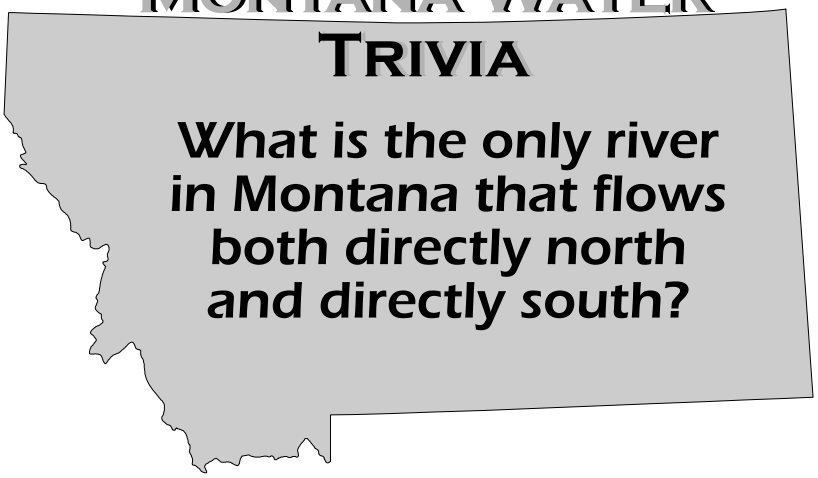
Mr. Aber staffs the Governor's Drought Advisory Committee. He is not a meteorologist or climatologist.

Water Lines Now Available on Web!

Water Lines can now be accessed on the Web at: **www.dnrc.state.mt.us/wrd/newsletters.htm**
We will be developing an e-mail address list to notify readers when the newest issue of *Water Lines* has been posted on the Web.

***If you prefer to be on our e-mail notification list, rather than our mailing list, please send your e-mail address* with a message stating you would like to be notified *to:* cforgey@state.mt.us.**

Montana Water Trivia



What is the only river in Montana that flows both directly north and directly south?

Answer: The Big Hole River

Milk River International Alliance Advertises for Coordinator Position

By Marvin Cross

After a year of organizational meetings, the Milk River International Alliance (MRIA) began advertising for a part-time coordinator position. MRIA is a watershed group consisting of basin residents and natural resource managers who are working together to help resolve natural resource issues within the Milk River Basin. The term "International" highlights the importance of the basin to citizens on both sides of the international boundary. The Alliance is open to all U.S. and Canadian basin residents who wish to participate.

Contract proposals from organizations or individuals will be considered for the coordinating duties. Applicants must have experience and demonstrated skills in program coordination, communications, facilitation, fund raising, grant writing and budget management. Experience in natural resource management programs is desired

The successful candidate will be expected to answer to the MRIA Advisory Council, which is presently made up of four private volunteer residents representing water users within the basin. The part-time coordinator can initially expect to work from 40 to 50 hours per week. Objectives outlined in the preliminary draft MRIA 2000 Work Plan include the following:

(1) Promote Public Understanding of Water Quality on the Mainstem of the Milk River and its Tributaries

(2) Complete and Educational Guidebook for the "The Milk River: International Lifeline of the Hi-Line" Video that was produced for a "Know Your Watershed" workshop conducted on January 30, 1998

(3) Organize a Watershed Tour(s)

(4) To Promote Public Involvement in the Federal Reserved Water Right Negotiations with the Gros Ventre and Assiniboine Tribes of the Ft Belknap Reservation.

The Coordinator will be expected to assist in the development and implementation of this MRIA Work Plan.

Besides private water users, the MRIA also consists of a Technical Advisory Council made up of representatives of various Federal, State, and Local governmental agencies that deal with water resource issues within the basin.

Photo by Kraig VanVoast

Milk River outside of Havre, Mont.

Floodplain Management—A New Start for the New Millenium
1st Annual Association of Montana Floodplain Managers Conference
May 16-18

Location:
Ramada Inn Copper King, 4655 Harrison Ave., Butte, Montana

Sponsored by:
DNRC Floodplain Management Section and the Association of Floodplain Managers

Registration:
The registration fee is $55 per person if received by May 1, 2000 and $65 after this date (includes lunch on Wednesday and Thursday). The registration fee also includes a 1-year membership with the Association of Floodplain Managers. Room reservations can be made at the Ramada Inn Copper King by dialing 1-800-332-8600. A block of rooms has been set aside at a rate of $35 plus tax for the nights of May 16, 17 and 18. This block of rooms will only be reserved until May 1, so make your reservations early.

For more information you can call Karl Christians at the DNRC, 406-444-6654 or e-mail him at kchristians@state.mt.us

Ed Lord–Upper Flint Creek Valley Rancher

By Cindy Forgey

Ed Lord is part owner and manager of Lord Ranch Co., a family cattle ranch in the Upper Flint Creek Valley, about 12 miles south of Philispburg. The operation is a combination of two ranches with over 4000 deeded acres, including leases on school trust land and National Forest. Twelve hundred acres of the deeded land is either irrigated pasture or irrigated hay land. One thousand acres of the land is irrigated using eight center pivots and the additional land is flooded by a system of contour ditches. The water sources are decreed and appropriated water rights and eleven hundred acre-feet of contract water from the Flint Creek Water Users Association.

Ed is currently the president of the Flint Creek Water Users Association and has held the position for the past twenty years. The Flint Creek Water Users Association maintains and operates a DNRC project with a storage reservoir in the Flint Creek Valley. The association has spent a great deal of time and effort to support the project because a dependable supply of water is so vital to ranchers in the Flint Creek Valley. Ed praised the Flint Creek Water Users Association Board of Directors and the talents and support of the State Water Projects staff from DNRC.

When asked for his opinion on the most challenging water quality/quantity issue facing Montanans today and the most challenging water-related issue facing Montana in the next ten years, Ed stated that, in his opinion, both questions have the same answer. "The most challenging issue is that of achieving an economically and socially acceptable balance between the competing uses of water in the State of Montana." Ed also stated that there has to be a balance between pure, pristine water that the recreation community demands and the continued existence of viable agriculture and industry. He doesn't see these issues getting any easier in the next ten years. Ed feels that it is going to take a major effort on everyone's behalf to achieve the acceptable balance but he truly believes this is a achievable endeavor.

Ed Lord.

INSIDE WATER LINES

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